



Mynx series

Mynx 5400 / 6500 / 7500

Heavy Duty Vertical Machining Center



Heavy Duty Vertical Machining Center

Heavy Duty Vertical Machining Center The Mynx series is designed to offer exceptionally high rigidity and powerful spindles that form the support for heavy-duty machining to satisfy our customers' demands for high productivity.

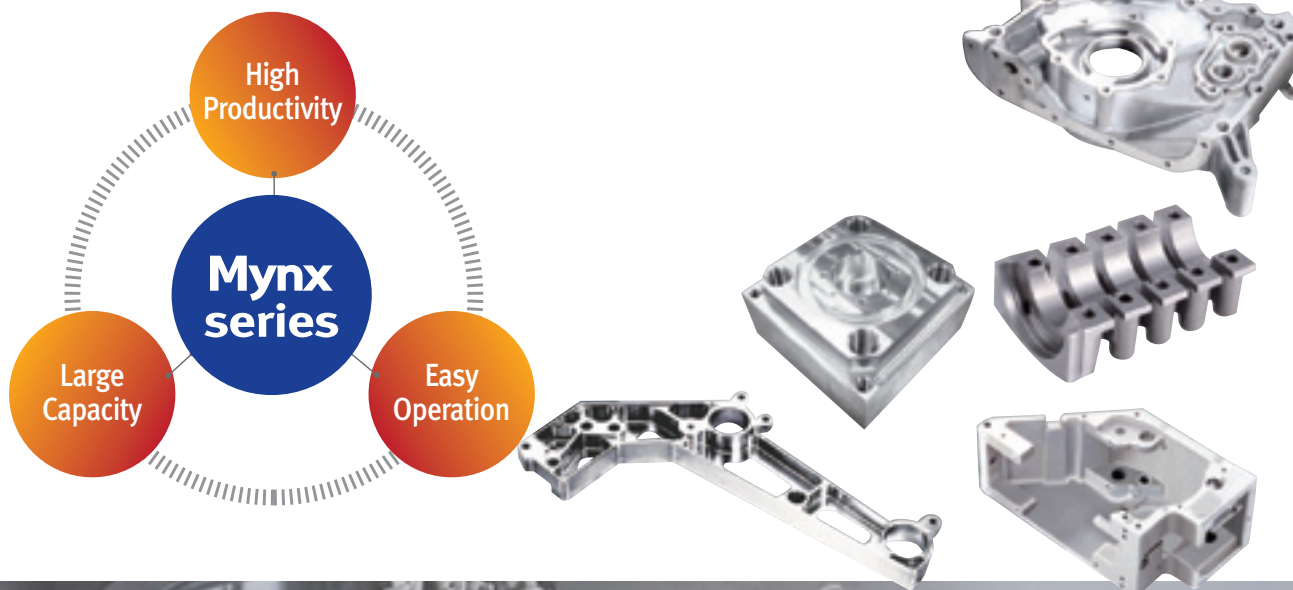
Mynx 5400 / 6500 / 7500



Mynx 5400 #40

Mynx 6500 #50

Improved features found on the Mynx series include a wide selection of spindles, an increased tool-storage capacity on a cam-type tool changer, an extended Y stroke, an easy operation software package, and more compared to the previous models. Together they enable maximum machining capability and ease of operation for a spectrum of machining operations.



High Rigidity

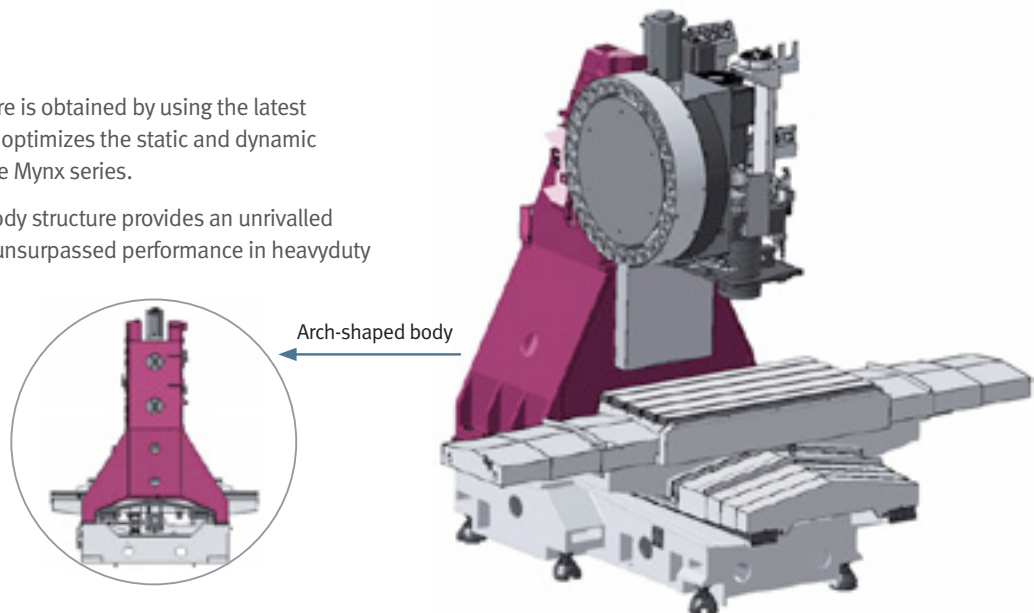
The highly-rigid body found on the Mynx series enables exceptionally heavy-duty machining.

Mynx 5400/6500/7500

High Rigidity

The highly-rigid body structure is obtained by using the latest FEM analysis method, which optimizes the static and dynamic stiffness characteristics of the Mynx series.

The resulting arch-shaped body structure provides an unrivalled level of rigidity, enabling an unsurpassed performance in heavyduty machining.



High Rigidity Design

A solid machine structure was realized through 3D-based computer simulation.

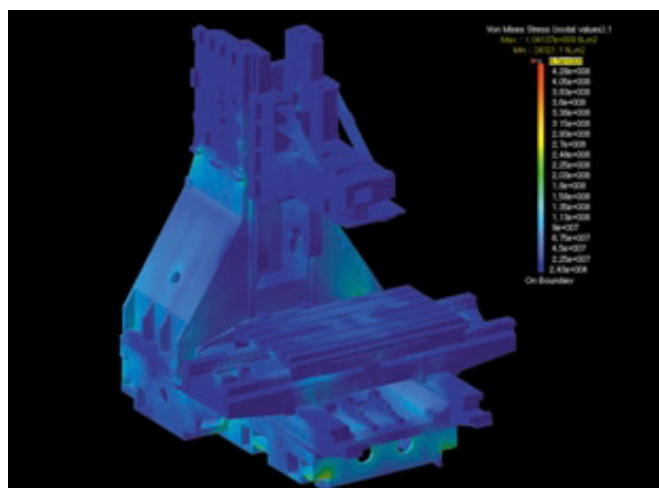
Static stiffness

The highly rigid body raises the static stiffness by 30% compared to the previous model.

Dynamic stiffness

Dynamic stiffness of the X, Y, and Z axes is significantly improved. High-frequency response is increased by 30% when compared to previous models.

※ Finite Element Method (FEM) analysis is used to design an exceptionally stable body.





Broader box guideways

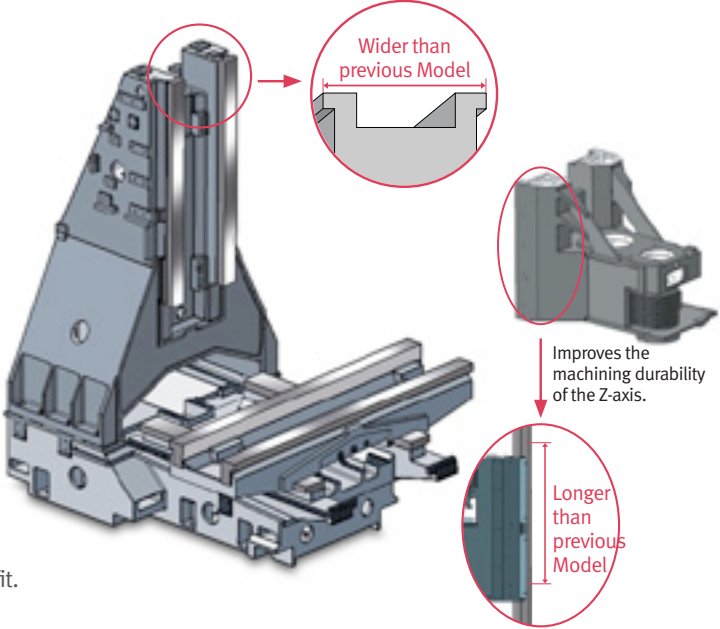
Compared to the previous models, the broader box guideways greatly improve the machine's dynamic characteristics.

	Mynx5400	Mynx6500
Z-axis Span width	22%↑	5%↑
Z-axis Span Length	32%↑	8%↑



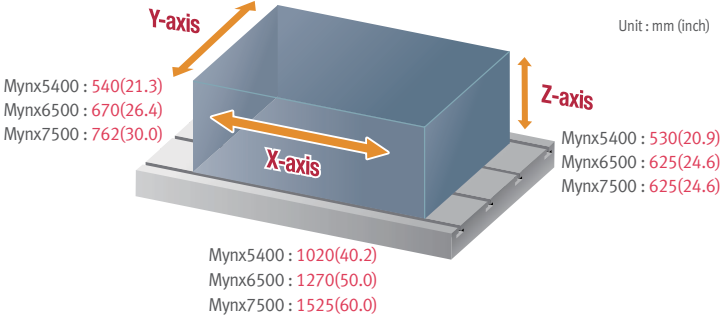
Scraping of surface

The sliding surface of each guideway is bonded with Rulon® 142 to reduce friction, then hand scraped for a perfect fit.



Extension of the Y-axis stroke

The extended Y-axis stroke allows wider work area compared to the previous model.



Rapid traverse

	Mynx 650	Mynx 5400/6500/7500
X-axis m/min(ipm)	24 (944.9)	30 (1181.1)
Y-axis m/min(ipm)	24 (944.9)	30 (1181.1)
Z-axis m/min(ipm)	20 (787.4)	24 (944.9)

Previous Model

	Mynx 5400	Mynx 6500	Mynx 7500
Mynx540	510 mm(20.1 inch)	540 mm(21.3 inch)	30mm(1.2 inch) UP ↑
Mynx650	650 mm(25.6 inch)	670 mm(26.4 inch)	20mm(0.8 inch) UP ↑
Mynx750	762 mm(30.0 inch)	762 mm(30.0 inch)	

High Power

A selection of powerful spindles enables the Mynx series to perform rigorous heavy-duty machining.

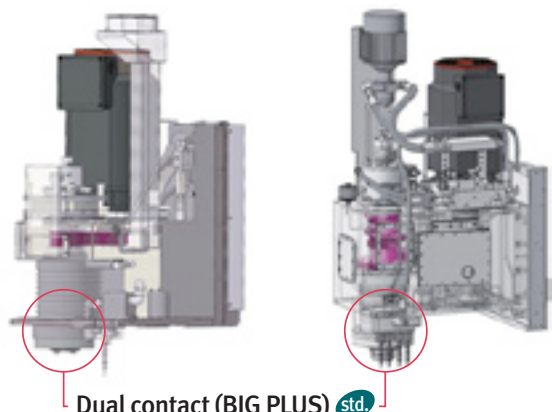
Mynx 5400/6500/7500

Belt driven std.

40 taper spindle is a true cartridge type unit supported by four precision class high speed bearings which are permanently greased and lubricated. The spindle is driven by a high torque A.C. motor delivering high power.

Gear driven opt.

The two-step gearbox generates an exceptionally high torque for the broadest spectrum of heavy-duty machining. (Only for taper #50)



Dual contact (BIG PLUS) std.

The Big Plus system provides simultaneous dual tool-holder contact at the tapered side and the nose face of the spindle.



A wide selection of spindles

The Mynx series' wide selection of spindles enables customers to optimize performance for various machining operations.

Model	Taper [DIN]	Speed r/min	Power Transmission	Power kW (Hp)		Max. Torque N·m (ft·lbs)
Mynx 5400 Mynx 6500	#40	8000	Belt-driven	std. 15/11(14.8/20.1)	[Con./30min]	191.2 (141.1) [30min]
		12000		opt. 15.6/15.6(20.9/20.9)	[Con./30min]	165.7 (122.3) [30min]
	#50	6000	Belt-driven	std. 15/15/11(14.8/20.1/20.1)	[Con./15/30min]	286.4 (211.4) [15min]
				opt. 15/18.5(20.1/24.8)	[Con./30min]	306.9 (226.5) [30min]
		8000	Gear-driven	opt. 18.5/22(24.8/29.5)	[Con./30min]	452.0 (333.6) [30min]
				opt. 11/15/15(14.8/20.1/20.1)	[Con./15/30min]	286.4 (211.4) [15min]
Mynx 7500	#40	8000	Belt-driven	std. 22/15 (29.5/20.1)	[Con./15min]	306.7 (226.3) [15min]
		12000		opt. 22/26 (29.5/34.9)	[Con./30min]	165.6 (122.2) [30min]
	#50	6000	Belt-driven	std. 15/18.5 (20.1/24.8)	[Con./30min]	306.7 (226.3) [30min]
				opt. 18.5/22 (24.8/29.5)	[Con./30min]	365.5 (269.7) [30min]
		8000	Gear-driven	opt. 18.5/22 (24.8/29.5)	[Con./30min]	464.3 (342.7) [30min]
				opt. 11/15/15 (14.8/20.1/20.1)	[Con./15/30min]	286.4 (211.4) [15min]

* Spindle : Mynx 6500 #50

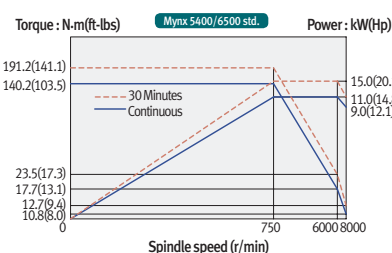
Spindle power-torque diagram

40



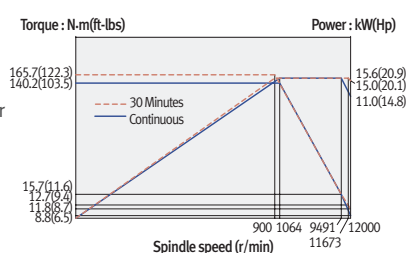
8000 r/min
Belt driven
Mynx 5400 / 6500

•spindle motor power
15/11 kW
(20.1/14.8 Hp)



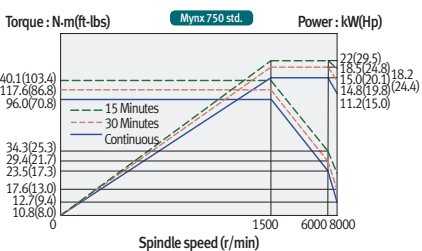
12000 r/min
Belt driven
Mynx 5400 / 6500

•spindle motor power
15.6/15.6 kW
(20.9/20.9 Hp)



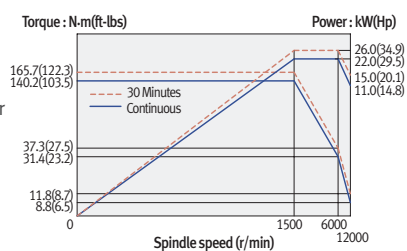
8000 r/min
Belt driven
Mynx 7500

•spindle motor power
22/15 kW
(29.5/20.1 Hp)



12000 r/min
Belt driven
Mynx 7500

•spindle motor power
22/26 kW
(34.9/29.5 Hp)



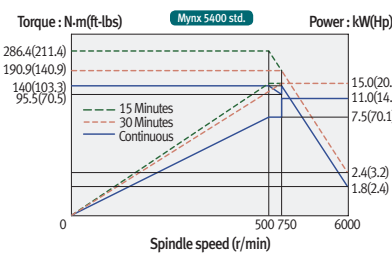
50

Belt-driven



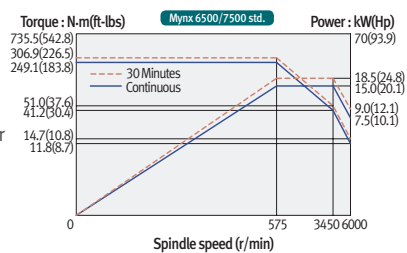
6000 r/min
Belt driven
Mynx 5400 / 6500

•spindle motor power
15/15/11 kW
(20.1/20.1/14.8 Hp)

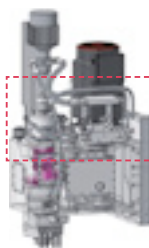


6000 r/min
Belt driven
Mynx 5400 / 6500 / 7500

•spindle motor power
18.5/15 kW
(24.8/20.1 Hp)

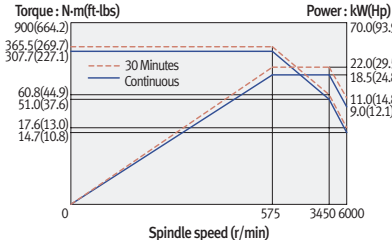


Gear-driven



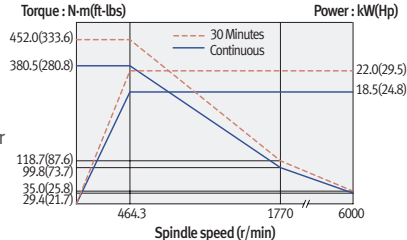
6000 r/min
Belt driven
Mynx 7500

•spindle motor power
22/18.5 kW
(29.5/24.8 Hp)



6000 r/min
Gear driven
Mynx 5400 / 6500 / 7500

•spindle motor power
22/18.5 kW
(29.5/24.8 Hp)

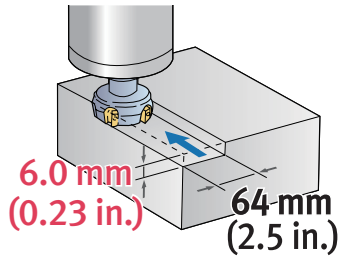


Machining Capacity

The Mynx series provides high machining performance in various cutting processes.

Face mill BT40 [15/11 kW (20.1/14.8 HP)] Carbon steel (SM45C)

• ø80mm (3.15 in.) Face mill (5Z)



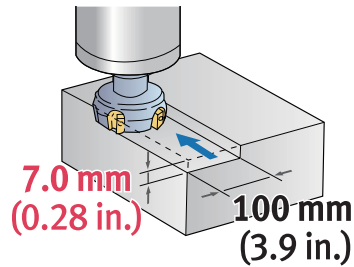
Machining rate
422 cm³/min
(16.6 in³/min)

Spindle speed
750 r/min

Feedrate
1100 mm/min
(43.3 ipm)

Face mill BT50 [18.5/15 kW (24.8/20.1 HP)] Carbon steel (SM45C)

• ø125mm (4.92 in.) Face mill (8Z)



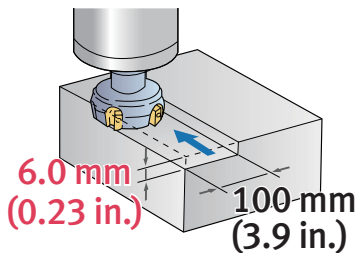
Machining rate
504 cm³/min
(19.8 in³/min)

Spindle speed
575 r/min

Feedrate
720 mm/min
(27.6 ipm)

Face mill BT50 Gear-driven [22/18.5 kW (29.5/24.8 HP)] Carbon steel (SM45C)

• ø125mm (4.92 in.) Face mill (8Z)



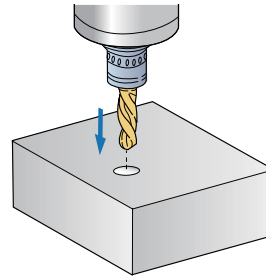
Machining rate
624 cm³/min
(38 in³/min)

Spindle speed
464 r/min

Feedrate
1040 mm/min
(40.9 ipm)

Drill BT40 Carbon steel (SM45C)

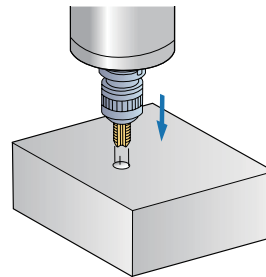
• ø50mm (1.97 in.) Drill



Spindle speed
200 r/min

Feedrate
42 mm/min
(1.7 ipm)

Tap BT40 Carbon steel (SM45C)



Tool
M36 x P4.0

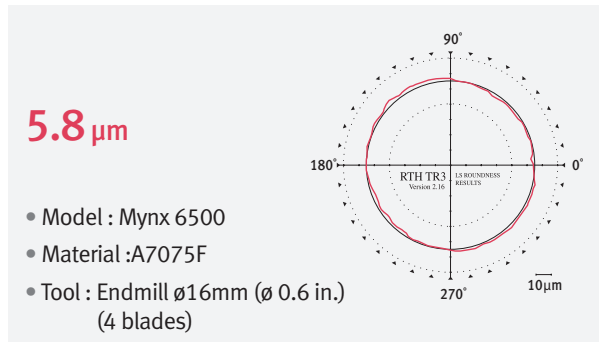
Spindle speed
250 r/min

Feedrate
1000 mm/min
(39.4 ipm)

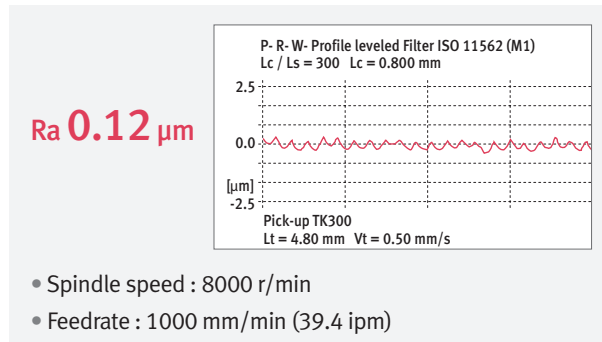
Machining Accuracy

The Mynx series can be equipped with features that reduce thermal deformation for enhanced machining accuracy.

Roundness



Roughness



Features provided to reduce thermal deformation

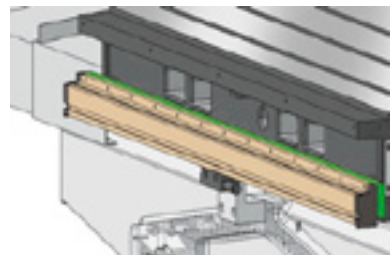
Fresh air

Heated air is forced from the casting and replaced by cooler fresh air. This minimizes the risk of thermal deformation, and reduces Z-axis thermal growth by 30% compared to the previous models.



Linear scale **opt.**

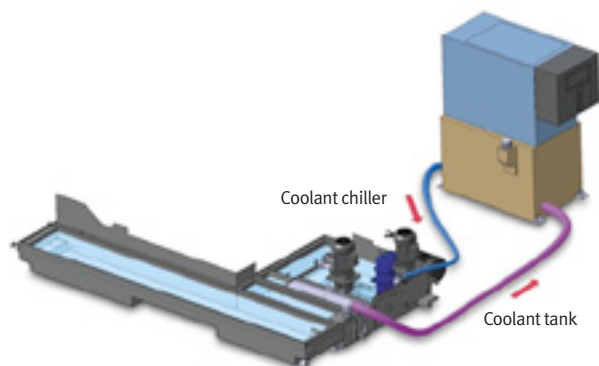
The coolant chiller lowers coolant temperature, helping to cool both the workpiece and tool during the machining operation.



Resolution :
0.001 mm

Coolant chiller **opt.**

Closed loop feedback system by optical linear scales ensures supreme positioning accuracy. Available on the X, Y and Z axes.



Oil cooler **opt.**

The oil cooler keeps the coolant at a constant temperature. The oil circulates around the spindle and bearings to minimize thermal deformation of the spindle.



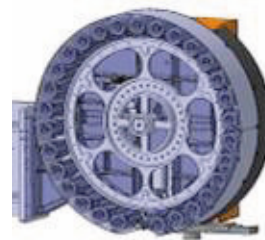
Automatic Tool Changer

Increased tool storage capacity and shorter tool change time on a cam-type tool changer provides high machining productivity.

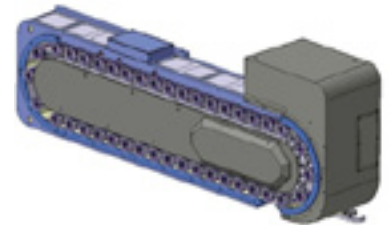
A wide selection of tool magazine

Model	Taper	Tool std.	Tool opt.
Mynx 5400	#40	30	40
	#50	24	-
Mynx 6500	#40	30	40
	#50	24	30 *
Mynx 7500	#40	30	40
	#50	24	40 *

Drum type magazine with CAM



Loop type magazine with CAM *



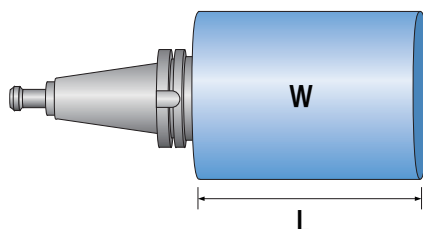
Tool change time (T-T-T)

Taper #40	1.5 s	➔	1.3 s
Taper #50	2.5 s		2.5 s

Tool storage capacity

	Previous model	Mynx series
Taper #40	24 tools	➔ 30 tools std. , 40 tools opt.
Taper #50	16 tools	➔ 24 tools std. , 30 tools opt. , 40 tools opt.

Maximum tool size



	Length mm (inch)	Weight kg (lb)
	Previous ➔ Mynx 5400/6500	Previous ➔ Mynx 5400/6500
Taper #40	250 (9.8) ➔ 300 (11.8)	8 (17.6) ➔ 8 (17.6)
Taper #50	300 (11.8) ➔ 350 (13.8)	12 (26.5) ➔ 15 (33.1)

Chip Disposal

Chip control is important to increase productivity and to enhance the operator's working environment. The Mynx series offers many features to optimize chip disposal.

Inner structure for effective chips and coolant flow

The inner structure of the Mynx series machines is designed to lead the flow of chips and coolant into a front-mounted chip pan for effective chip disposal.

Through spindle coolant **opt.**

Middle pressure : 1.96 Mpa (284.2 psi) [20 bar]
High pressure : 6.86 Mpa (994.7 psi) [70 bar]



Shower coolant **opt.**



Internal screw conveyor **std.**



Flood coolant **std.**



Coolant Gun **opt.**



Chip conveyor **opt.**

Hinge type

Scraper type

Drum filter type



Larger Coolant Tank Capacity

Increased coolant tank capacity improves the efficiency of machine operation.

Previous Model

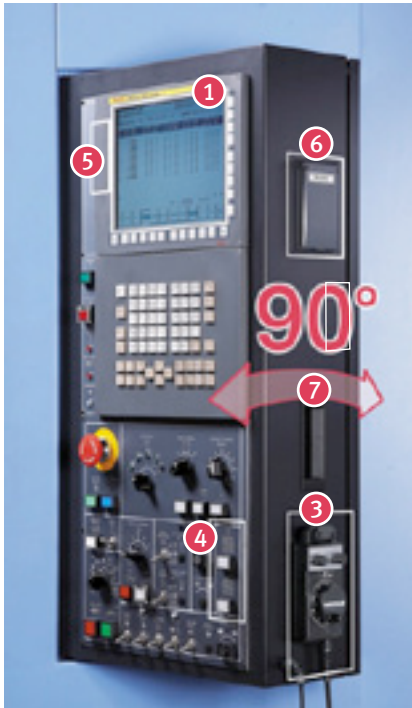
Mynx540 300 ℓ (79.3 gallon)
Mynx650 300 ℓ (79.3 gallon)
Mynx750 300 ℓ (79.3 gallon)

Mynx series

Mynx5400 380 ℓ (100.4 gallon)
Mynx6500 380 ℓ (100.4 gallon)
Mynx7500 430 ℓ (113.6 gallon)

Easy Set-up

Operating Console std.



Mynx 5400/6500 only

❶ 10.4" Color TFT LCD Monitor as Standard Feature

The wide screen displays more useful information for the operator. Doosan's customized pages make setting up, operating, and machine condition monitoring easier.

10.4"
Previous Model 8.4"

❷ Pentium Board is standard. Easy retrofit of AICC or Easy Guide-i

❸ Portable MPG

It makes workpiece setting easier for the operator



❹ Easier ATC operation and maintenance.

Magazine : CW

Magazine : CCW



It gives much easier operation and maintenance for ATC.

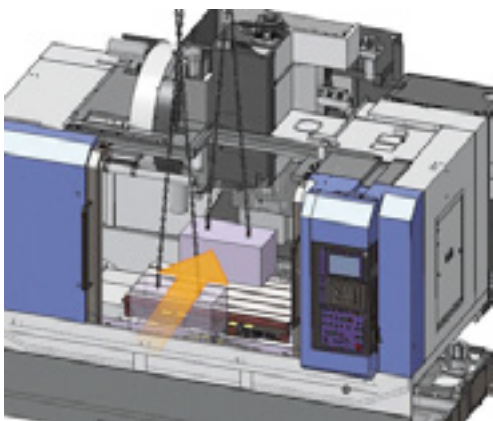
❺ PCMCIA Card

❻ Embedded Ethernet / RS-232C

❼ Swivelling Operating Console

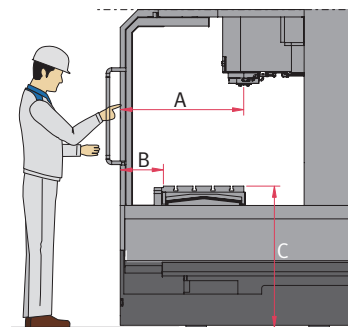
The easy-to-use operation panel can swivel 0-90°

Workpiece loading



Accessibility

Access to the tool post is optimized for operator's convenience.



Unit : mm (inch)

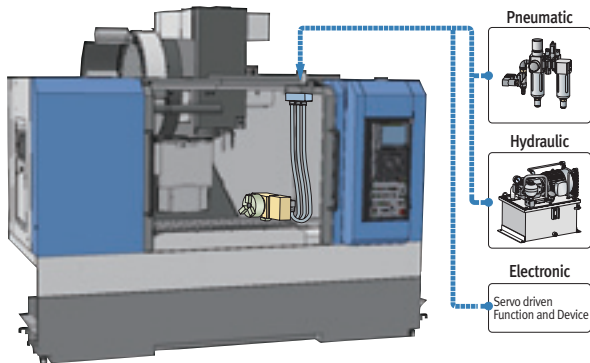
	A	B	C
Mynx 5400	830 (32.7)	290 (11.4)	950 (37.4)
Mynx 6500	895 (35.2)	224 (8.8)	950 (37.4)
Mynx 7500	1077 (42.4)	321 (12.6)	1050 (41.3)

Optional Equipment

Various options are available to improve the machine performance for different applications.

Interface for additional equipment

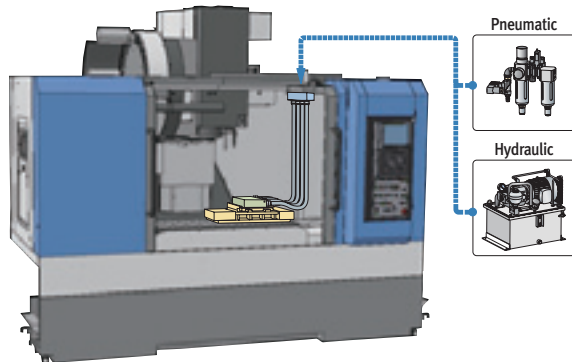
Example : 1 additional axis



※ Hydraulic power unit may be additionally necessary according to rotary table specifications.

Connection example of fixture interface

Example : hydraulic fixture



Fixture check list (for hydraulic / pneumatic fixtures)

● Pressure source

Hydraulic ☐ P/T ☐ A/B
Pneumatic ☐ P/T ☐ A/B

● Number of ports

☐ 1pair (2-PT 3/8"port)
☐ 2pair (4-PT 3/8"port)
☐ 3pair (6-PT 3/8"port)

● Hydraulic power unit

Supply scope : ☐ User ☐ DOOSAN
(Please check the below detail specification, if you want Doosan to supply.)

☐ Use Doosan standard unit
24 L/min (6.3 gal/min) /
4.9 MPa (711 psi)

☐ Special requirement
_____ L / min (gal/min) at _____MPa (psi)

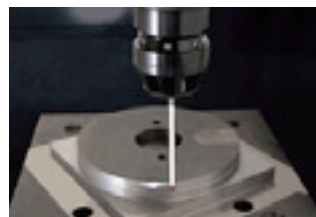


※ Contact Doosan for more information

Automatic tool measurement



Automatic workpiece measurement



Minimum Quantity Lubrication (MQL)



Misting device

Oil skimmer



Easy Operation Package

Doosan's easy operation software package is customized to provide fast and easy operation for tooling, workpiece and program setup. These features maximize productivity by minimizing time lost during process setup.

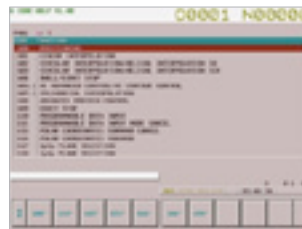


std.

- Doosan Fanuc i series
- 10.4" color TFT LCD
- Part programming storage 1280m
- Embedded Ethernet

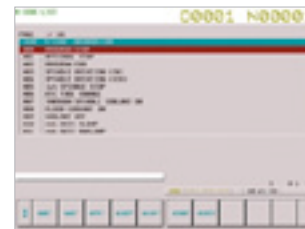
Programming

G Code List



Operator can check the meaning of each G-code.

M Code List



Operator can check the meaning of each M-code.

Tool Data Registry Table



Operator can edit & check the tool number of the tool magazine pot.

Pattern Cycle



It is easy to make pattern cycle program by this function.

Calculator



Operator can calculate numerical formula in relation to arc and hole easily.

ENGRAVING opt.



It makes "Engraving" programming easy.

Operation / Maintenance

Table Moving for Setup



Enables quick and easy table movement to either of three positions during setup.

ATC Recovery Help



Allows easy recovery of ATC from ATC alarm status.

Sensor Status Monitor



Solenoid valve and sensor status can be checked without the electric diagram.

Alarm Guidance



The alarm remedy method for selected important alarms is displayed on the screen.

Easy NC Parameter Help



Operator can check some useful parameters for easy operation.

Operation Rate



Manages working and operation times for each operator.

Tool Load Monitor opt.



Damage to tools is minimized by monitoring the axis and spindle load during cutting operations.

Renishaw Gui opt. Tool measure Work measure



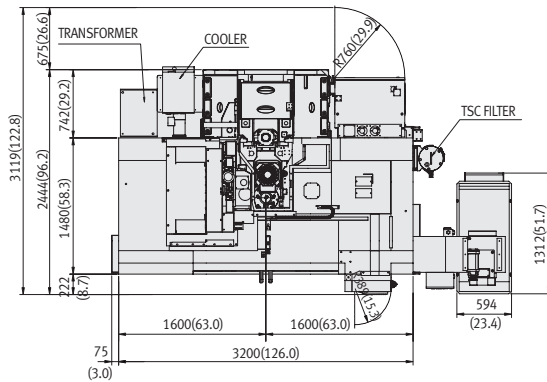
Tooling and the work piece measurement are operated through a conversational control screen.

• Some functions may be unavailable depending on machine model. Please contact Doosan for details.

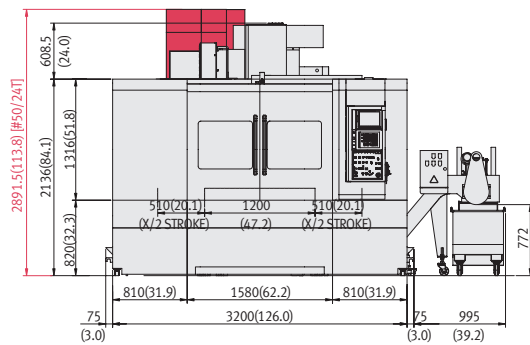
External Dimensions

Mynx 5400

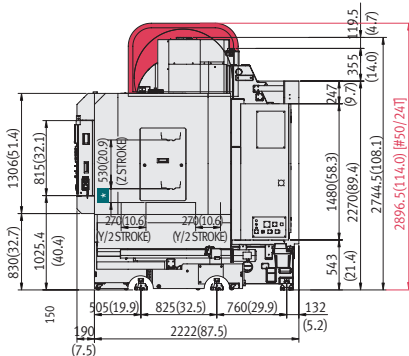
Top View



Front View



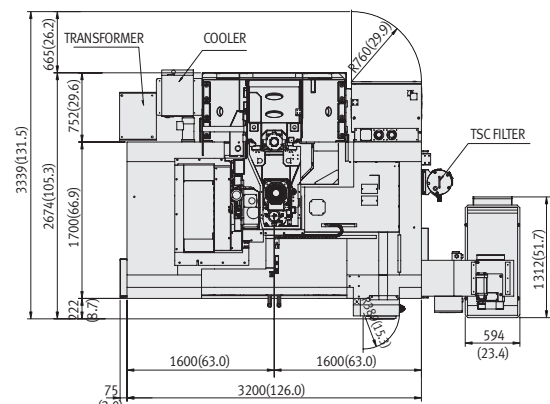
Side View



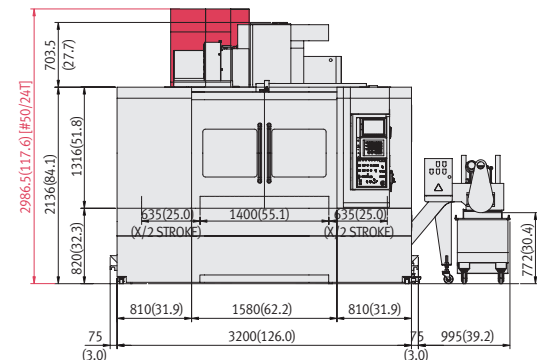
Distance from nose to table top
-Taper 40 : 150 (5.9) mm(inch)
Taper 50 : 200 (7.9) mm(inch)

Mynx 6500

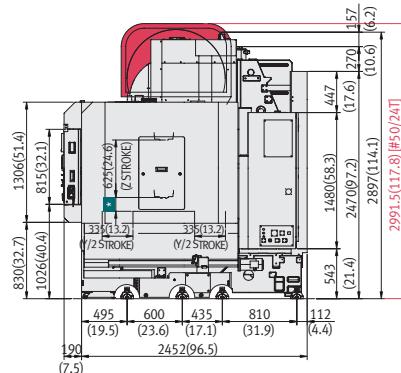
Top View



Front View



Side View



Distance from nose to table top
-Taper 40 : 150 (5.9) mm(inch)
Taper 50 : 200 (7.9) mm(inch)

Unit : mm (inch)

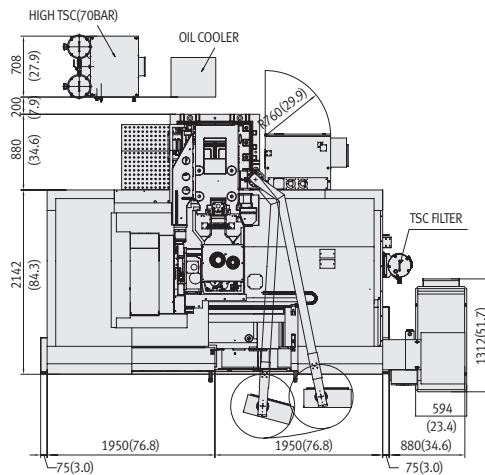
BT50

Mynx 7500

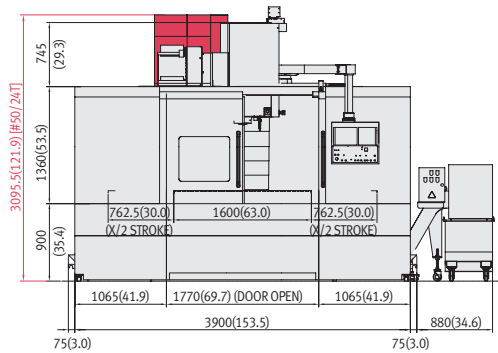
Unit : mm (inch)

■ BT50

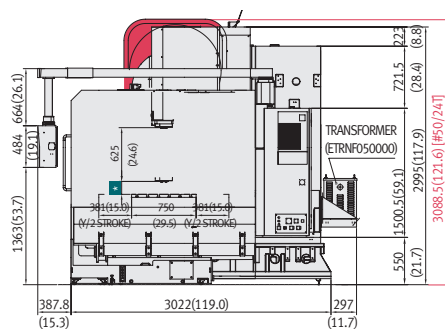
Top View



Front View



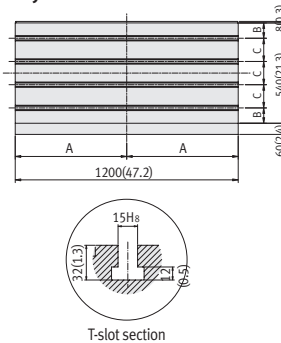
Side View



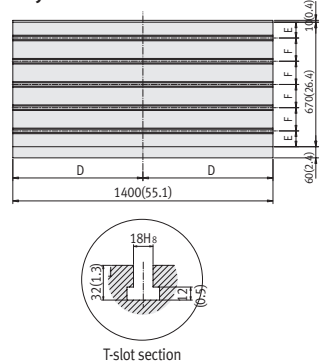
- ★ Distance from nose to table top
-Taper 40 : 150 (5.9) mm(inch)
Taper 50 : 200 (7.9) mm(inch)

Table

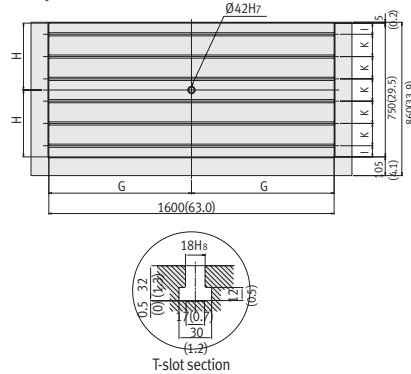
Mynx 5400



Mynx 6500



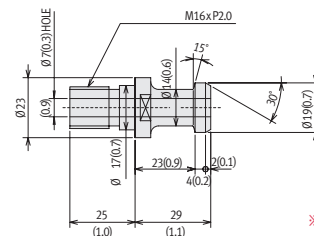
Mynx 7500



A	600 (23.6)
B	82.5 (3.2)
C	125 (4.9)
D	700 (27.6)
E	85 (3.3)
F	125 (4.9)
G	800 (31.5)
H	375 (14.8)
I	62.5 (2.5)
K	125 (4.9)

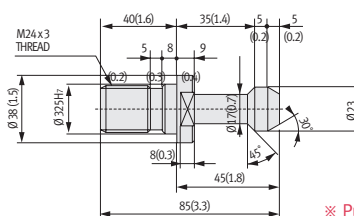
Pull Stud

BT40



※ Pull Stud 15° : Standard

BT50



※ Pull Stud 45° : Standard

Machine Specifications

	Features		Unit	Mynx 5400	Mynx 5400/50	Mynx 6500	Mynx 6500/50	Mynx 7500	Mynx 7500/50
Travels	Travel (X / Y / Z-axis)		mm (inch)	1020/540/530 (40.2/21.3/20.9)		1270/670/625(50.0/26.4/24.6)		1525/762/625 (60.0/30.0/24.6)	
	Distance from nose to table top		mm (inch)	150-680 (5.9-26.8)	200-730 (7.9-28.7)	150-775 (5.9-30.5)	200-825 (7.9-32.5)	150-775 (5.9-30.5)	200-825 (7.9-32.5)
	Distance from center to column		mm (inch)	567 (22.3)		722 (28.4)		785 (30.9)	
Feedrate	Rapid traverse (X / Y / Z)		m/min (ipm)	30 / 30 / 24 (1181.1 / 1181.1 / 944.9)					
	Cutting feedrate		mm/min (ipm)	12000 (4724.4)					
Table	Table size		mm (inch)	1200 x 540 (47.2 x 21.3)		1400 x 670 (55.1 x 26.4)		1600 x 750 (63.0 x 29.5)	
	Table loading capacity		kg (lb)	800 (1763.7)		1000 (2204.6)		1500 (3306.9)	
	Table surface		mm (inch)	4-125 x 18H ₈ (4-4.9 x 0.7H ₈)		5-125 x 18H ₈ (5-4.9 x 0.7H ₈)		6-125 x 18H ₈ (6-4.9 x 0.7H ₈)	
Spindle	Max. spindle speed	Belt	r/min	8000 {12000}	6000 {6000, 8000}	8000 {12000}	6000 {6000, 8000}	8000 {12000}	6000 {8000}
	※ Refer to page 6	Gear	r/min	-	{6000}	-	{6000}	-	{6000}
	Spindle Taper			ISO #40, 7/24 Taper	ISO #50, 7/24 Taper	ISO #40, 7/24 Taper	ISO #50, 7/24 Taper	ISO #40, 7/24 Taper	ISO #50, 7/24 Taper
	Max. Torque	Belt 8000 (12000)	N-m (ft-lbs)	191.2 {165.7} (141.1(122.3))	-	191.2 {165.7} (141.1(122.3))	-	140.1 {165.7} ((122.3))	-
	※ Refer to page 6	Belt 6000	N-m (ft-lbs)	-	286.4 (211.4) {306.9(226.5)}	-	306.9 (226.5) {286.4(211.4)}	-	306.9 (226.5) {365.5(269.7)}
		Gear 6000	N-m (ft-lbs)	-	{452.0(333.6)}	-	{452.0(333.6)}	-	{452.0(333.6)}
		Belt 8000	N-m (ft-lbs)	-	{286.4(211.4)}	-	{286.4(211.4)}	-	{286.4(211.4)}
ATC	Type of tool shank *			BT,DIN 40	BT,DIN 50	BT,DIN 40	BT,DIN 50	BT,DIN 40	BT,DIN 50
	Tool storage capacity		ea	30{40}	24	30 {40}	24{30}	30{40}	24{40}
	Max. tool diameter Without Adjacent Tools		mm (inch)	80 (3.2) {76 (3.0)} / 125 (4.9)	125 / 220 (4.9/8.7)	80 (3.2) {76 (3.0)} / 125 (4.9)	125 / 220 (4.9/8.7)	80 (3.2) {76 (3.0)} / 125 (4.9)	125 / 220 (4.9/8.7)
	Max. tool length		mm (inch)	300 (11.8)	350 (13.8)	300 (11.8)	350 (13.8)	300 (11.8)	350 (13.8)
	Max. tool weight		kg (lb)	8 (17.6)	15 (33.1)	8 (17.6)	15 (33.1)	8 (17.6)	15 (33.1)
	Tool selection			Memory Random					
	Tool change time (Tool-to-tool)		s	1.3	2.5	1.3	2.5	1.3	2.5
	Tool change time (Chip-to-chip)		s	3.7	5.5	3.7	5.5	3.7	5.5
Motors	Spindle motor	Belt 8000 (12000)	kW (Hp)	15/11 (20.1/14.8) {15.6/15.6(20.9/20.9)}	-	15/11 (20.1/14.8) {15.6/15.6(20.9/20.9)}	-	22/15 (29.5/20.1) {22/26 (29.5/34.9)}	-
	※ Refer to page 6	Belt 6000	kW (Hp)	-	15/15/11 (20.1/20.1/14.8) {18.5/22 (24.8/29.5)}	-	15/15/11 (20.1/20.1/14.8) {18.5/22 (24.8/29.5)}	-	18.5/15 (24.8/20.1) {22/18.5(29.5/24.8)}
		Gear 6000	kW (Hp)	-	{22/18.5(29.5/24.8)}	-	{22/18.5(29.5/24.8)}	-	{22/18.5(29.5/24.8)}
		Belt 8000	kW (Hp)	-	{15/15/11 (20.1/20.1/14.8)}	-	{15/15/11 (20.1/20.1/14.8)}	-	{15/15/11 (20.1/20.1/14.8)}
	Feed motor (X / Y / Z)		kW (Hp)	3.0 / 3.0 / 4.0 (4.0 / 4.0 / 5.4) 4.0 / 4.0 / 7.0 (5.4 / 5.4 / 9.4)					
Power source	Electric power supply (Rated capacity)	Belt 8000 (12000)	kVA	40	-	39.4 {45.1}	-	48 {56.9}	-
		Belt 6000	kVA	-	36.1 {41.2}	-	44.6 {39.4}	-	47.3 {51.8}
		Gear 6000	kVA	-	{47.7}	-	{48.4}	-	{51.8}
		Belt 8000	kVA	-	{36.1}	-	{39.4}	-	{42.9}
Tank capacity	Coolant tank capacity		l (gal)	380 (100.4)				430 (113.6)	
	Lubrication tank capacity		l (gal)	1.4 (0.4)				4.3 (1.14)	
Machine size	Machine height		mm (inch)	2744 (108.0)	2900 (114.2)	2897 (114.1)	2995 (117.9)	3190 (125.6)	3240 (127.6)
	Machine dimension (L x W)		mm (inch)	2444 x 3350 (96.2 x 131.9)		2674 x 3350 (105.3 x 131.9)		3704 x 4050 (145.8 x 159.5)	
	Machine weight		kg (lb)	7000 (15432.1)		9200 (20282.2)		14000 (30864.3)	

Note : { } are optional.

Standard Feature

- Assembly & operation tools
- Coolant tank & chip pan
- Door interlock for safety
- Flood coolant system
- Installation parts
- Internal screw conveyor
- Operator call lamp (red, yellow, green)
- Portable MPG
- Splash guard
- Work light
- X, Y, Z Absolute pulse coder

Optional Feature

- 4th axis preparation
- Automatic power off
- Automatic tool measurement
- Automatic workpiece measurement
- Chip conveyor & chip bucket
- EZ Guide i
- Minimum Quantity Lubrication
- Oil cooler & spindle head cooling system
- Oil skimmer
- Shower coolant
- Test bar
- Through spindle coolant system*

* Please consult with technical engineer if the density of coolant is higher than 10%, as this could affect the filtration function

- The specifications and information above-mentioned may be changed without prior notice.
- For more details, please contact Doosan

NC Unit Specifications

DOOSAN-FANUC i series

AXES CONTROL

- Controlled axes	3 (X,Y,Z)
- Simultaneous controlled axes	Positioning (G00) / Linear interpolation (G01) : 3 axes Circular interpolation (G02, G03) : 2 axes
- Backlash compensation	
- Emergency stop / overtravel	
- Follow up	
- Least command increment	0.001mm / 0.0001"
- Least input increment	0.001mm / 0.0001"
- Machine lock	all axes / Z axis
- Mirror image	Reverse axis movement (setting screen and M - function)
- Stored pitch error compensation	Pitch error offset compensation for each axis
- Stored stroke check 1	Overtravel controlled by software
- Absolute pulse coder	
- Position switch	

INTERPOLATION & FEED FUNCTION

- 2nd reference point return	G30
- Circular interpolation	G02, G03
- Cylindrical interpolation	G07.1
- Dwell	G04
- Exact stop check	G09, G61(mode)
- Feed per minute	mm / min
- Feedrate override (10% increments)	0 - 200 %
- Helical interpolation	
- Jog override (10% increments)	0 - 200 %
- Linear interpolation	G01
- Manual handle feed	Max. 3 units
- Manual handle feedrate	0.1 / 0.01 / 0.001mm
- Manual handle interruption	
- Override cancel	M48 / M49
- Positioning	G00
- Rapid traverse override	F0 (fine feed), 25 / 50 / 100 %
- Reference point return	G27, G28, G29
- Skip function	G31

SPINDLE & M-CODE FUNCTION

- M- code function	M 3 digits
- Spindle orientation	
- Spindle serial output	
- Spindle speed command	S5 digits
- Spindle speed override (10% increments)	10 - 150%

TOOL FUNCTION

- Cutter compensation C	G40, G41, G42
- Number of tool offsets	400 ea
- Tool length compensation	G43, G44, G49
- Tool life management	
- Tool number command	T2 digits
- Tool offset memory C	Geometry / Wear and Length / Radius offset memory
- Tool length measurement	G45 - G48

PROGRAMMING & EDITING FUNCTION

- Absolute / Incremental programming	G90 / G91
- Auto. Coordinate system setting	
- Background editing	
- Canned cycle	G73, G74, G76, G80 - G89, G99
- Circular interpolation by radius programming	
- Custom macro B	
- Decimal point input	
- Extended part program editing	
- I / O interface	RS - 232C
- Inch / metric conversion	G20 / G21
- Label skip	
- Local / Machine coordinate system	G52 / G53

- Maximum commandable value	±99999.999mm (±9999.9999 inch)
- No. of Registered programs	400 ea
- Optional block skip	
- Optional stop	M01
- Part program storage	1280 m (4200ft) [512kB]
- Playback	
- Program number	O4-digits
- Program protect	
- Program stop / end	M00 / M02, M30
- Rigid tapping	G84, G74
- Sub program	Up to 4 nesting
- Tape code	ISO / EIA Automatic discrimination
- Thread cutting	
- Work coordinate system	G54 - G59

Others Function (Operation, Setting & Display, etc)

- 3rd / 4th reference return	
- Additional work coordinate system	G54.1 P1 - 48 (48 pairs)
- AI APC(Advanced Preview Control)	20 block preview
- Alarm display	
- Alarm history display	
- Automatic corner override	G62
- Clock function	
- Coordinate rotation	G68, G69
- Cycle start / Feed hold	
- Display of PMC alarm message	Message display when PMC alarm occurred
- Dry run	
- Ethernet function	
- Graphic display	Tool path drawing
- Help function	
- High speed skip function	
- Loadmeter display	
- MDI / DISPLAY unit	10.4" color LCD, Keyboard for data input, soft-keys
- Memory card interface	
- Operation functions	Tape / Memory / MDI / Manual
- Operation history display	
- Optional angle chamfering / corner R	
- Polar coordinate command	G15 / G16
- Program restart	
- Programmable data input	Tool offset and work offset are entered by G10, G11
- Programmable mirror image	G50.1 / G51.1
- Run hour and part number display	
- Scaling	G50, G51
- Search function	Sequence NO. / Program NO.
- Self - diagnostic function	
- Servo setting screen	
- Single block	
- Single direction positioning	G60
- Stored stroke check 2	

선택 사양

- Additional controlled axes	5 axes in total
- AICC (AI Contour Control) with Hardware	40 block preview
- EZ Guide i (Doosan infracore Conversational Programming Solution)	
- with 10.4" Color TFT	
- Dynamic graphic display (w/10.4" Color LCD)	Machining profile drawing ⇒ When the EZ Guide i is used, the Dynamic graphic display cannot application
- Fast Data server	
- Fast Ethernet	
- Tool load monitoring function (Doosan)	

FANUC 32i-A opt.

AXES CONTROL

- Controlled axes	3 (X,Y,Z)
- Simultaneous controlled axes	Positioning (G00) / Linear interpolation (G01) : 3 axes Circular interpolation (G02, G03) : 2 axes
- Backlash compensation	
- Emergency stop / overtravel	
- Follow up	
- Least command increment	0.001mm / 0.0001"
- Least input increment	0.001mm / 0.0001"
- Machine lock	all axes / Z axis
- Mirror image	Reverse axis movement (setting screen and M - function)
- Stored pitch error compensation	Pitch error offset compensation for each axis
- Stored stroke check 1	Overtravel controlled by software
- Absolute pulse coder	

INTERPOLATION & FEED FUNCTION

- 2nd reference point return	G30
- Circular interpolation	G02, G03
- Dwell	G04
- Exact stop check	G09, G61(mode)
- Feed per minute	
- Feedrate override (10% increments)	0 - 200 %
- Jog override (10% increments)	0 - 200 %
- Linear interpolation	G01
- Manual handle feed 1 unit	
- Manual handle feedrate	x1, x10, x100 (per pulse)
- Override cancel	M48 / M49
- Positioning	G00
- Rapid traverse override	F0 (fine feed), 25 / 50 / 100 %
- Reference point return	G27, G28, G29
- Skip function	G31
- Helical interpolation	
- AICC I	30 block preview
- Thread cutting, synchronous cutting	
- Program restart	
- Automatic corner deceleration (Specify AI Contour control II)	
- Feedrate clamp by circular acceleration (Specify AI Contour control II)	
- Linear ACC / DEC before interpolation (Specify AI Contour control II)	
- Linear ACC / DEC after interpolation	
- Rapid traverse bell-shaped acceleration/deceleration	
- Smooth backlash compensation	

SPINDLE & M-CODE FUNCTION

- M- code function	M 3 digits
- Spindle orientation	
- Spindle serial output	
- Spindle speed command	S5 digits
- Spindle speed override (10% increments)	10 - 150%
- Spindle output switching	
- Retraction for rigid tapping	
- Rigid tapping	G84, G74

TOOL FUNCTION

- Tool nose radius compensation	G40, G41, G42
- Number of tool offsets	64 ea
- Tool length compensation	G43, G44, G49
- Tool number command	T2 digits
- Tool life management	
	Geometry / Wear and Length / Radius offset memory
- Tool offset memory C	
- Tool length measurement	

PROGRAMMING & EDITING FUNCTION

- Absolute / Incremental programming	G90 / G91
- Auto. Coordinate system setting	
- Background editing	
- Canned cycle	G73, G74, G76, G80 - G89, G99
- Circular interpolation by radius programming	
- Custom macro B	
- Custom size 512Kb	
- Decimal point input	
- I / O interface	RS - 232C
- Inch / metric conversion	G20 / G21
- Label skip	
- Local / Machine coordinate system	G52 / G53
- Maximum commandable value	±99999.999mm (±9999.9999 inch)
- No. of Registered programs	500 ea
- Optional stop	M01
- Optional block skip	
- Optional stop	M01

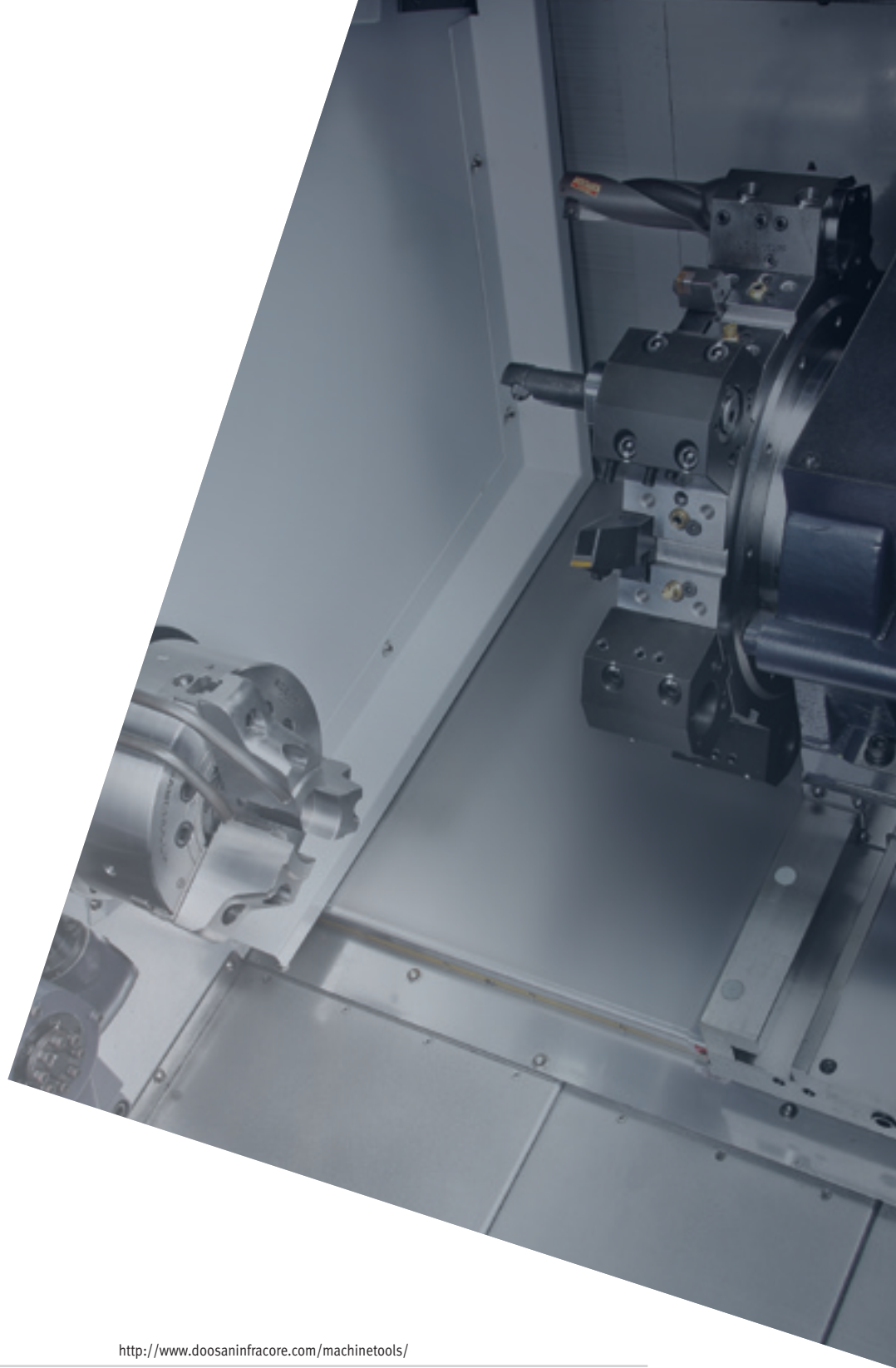
- Part program storage	640 m (2,100 ft) [256 kB] m
- Program number	04-digits
- Program protect	
- Program stop / end	M00 / M02, M30
- Programmable data input	Tool offset and work offset are entered by G10, G11
- Sub program	Up to 4 nesting
- Tape code	ISO / EIA Automatic discrimination
- Work coordinate system	G54 - G59
- Additional work coordinate system (48 Pair)	G54.1 P1 - 48 pairs
- Coordinate system rotation	G68, G69
- Extended part program editing	
- Optional angle chamfering / corner R	
- Macro executor	

Others Function (Operation, Setting & Display, etc)

- Alarm display	
- Alarm history display	
- Clock function	
- Cycle start / Feed hold	
- Control axis detach	
- Display of PMC alarm message	Message display when PMC alarm occurred
- Dry run	
- Embeded ethernet	
- Graphic display	Tool path drawing
- Help function	
- High speed skip function	
- Loadmeter display	
- MDI / DISPLAY unit	10.4" color LCD, Keyboard for data input, soft-keys
- Memory card interface	
- Operation functions	Tape / Memory / MDI / Manual
- Operation history display	
- Program restart	
- Run hour and part number display	
- Search function	Sequence NO. / Program NO.
- Self - diagnostic function	
- Servo setting screen	
- Single block	
- External data input	
- Multi language display	
- Stored stroke check 2	

OPTIONAL SPECIFICATIONS

- 3-dimensional coordinate conversion	
- 3-dimensional tool compensation	
- 3rd / 4th reference return	
- Addition of tool pairs for tool life management	1024 pairs
- Additional controlled axes	Max. 5 axes in total
- Additional work coordinate system	G54.1 P1 - 300 (300 pairs)
- DSQ 1 (AICC II + Machining condition selection function)	80 block preview
- DSQ 2 (AICC II + Machining condition selection function + Data server + 1GB)	80 block preview
- Automatic corner override	G62
- Chopping function	G81.1
- Cylindrical interpolation	G07.1
- Dynamic graphic display	Machining profile drawing
- Exponential interpolation	
- Interpolation type pitch error compensation	
- EZ Guide i (Doosan infracore Conversational Programming Solution)	
with 10.4" Color TFT	
⇒ When the EZ Guide i is used, the Dynamic graphic display cannot application	
- Tape format for FS15	
- Increment system 1/10	
- Figure copying	G72.1, G72.2
- Handle interruption	
- High speed skip function	
- Involute interpolation	G02.2, G03.2
- Machining time stamp function	
- No. of Registered programs	1000 ea
- Number of tool offsets	99 / 200 / 400 pairs
- Optional block skip addition	9 blocks
- Part program storage	512K / 1M / 2M byte
- Playback function	
- High speed skip function	G15 / G16
- Polar coordinate interpolation	G12.1 / G13.1
- Programmable mirror image	G50.1 / G51.1
- Single direction positioning	G60
- Tool load monitoring function (Doosan)	
- Tool position offset	G45 - G48
- Position switch	



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Doosan Machine Tools
Optimal Solutions for the Future

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- For more details, please contact Doosan.

